Tackling technology transfer

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Call for action on climate finance, international technology transfer, and capacity building is India's central agenda at COP 27 and has been our focus at past COPs as well. So far, there is some information and discussion and certain action points on climate finance; however, there is little clarity with respect to technology transfer mechanisms and capacity building.

What is the existing mechanism/implementation framework for international technology transfer?

According to the UNFCCC, COP established the 'Technology Mechanism' in 2010, with the objective of accelerating climate technology transfer. The Climate Technology Centre and Network is the nodal agency for implementing this mechanism. The effectiveness of the mechanism, however, remains unclear and is known to be limited by funds. Thus far, the Clean Development Mechanism (CDM) and technology transfer have been synonymous in discussions around deployment of advanced climate mitigation technology in developing countries, although technology transfer is not explicitly mentioned in the CDM's mandate. The CDM allows eligible entities from developed countries to invest in emission reduction projects in developing countries to earn certified emission reduction (CER) credits.

How beneficial was the CDM to India?

India is one of the few nations that responded and set up an institutional framework in accordance with the requirements of the Kyoto Protocol. India presently ranks second to China in terms of the total number of projects registered under the CDM framework. However, only 30% of the 1672 projects have been implemented and are active. Further, only 5% of the registered projects include technology transfer, depicting the relative failure of the CDM at facilitating technology transfer in India.

What are some of the emerging inconsistencies?

The CDM's failure in India to impact is partly attributed to strong domestic markets; in other words, we have the capacity to produce domestically at the required scale. However, there is also evidence that strong domestic capacity enhances the effectiveness of international technology transfer, as it ensures customised use of technologies for local needs.

In contrast, studies have attributed the lack of CDM-related investments from developed countries to relatively lower levels of industrialisation and weaker institutional mechanisms in developing countries.

Additionally, a study stated that developing countries with weak intellectual property rights (IPRs) were also reluctant to adopt transferred technologies owing to the fear that neighbouring countries would be able to replicate them for free. In other words, weak IPRs have deterred both developed and developing countries from taking full advantage of the CDM and technology transfer. But China, despite its controversial technology transfer policies, has done far better than India in terms of attracting investments via the CDM.

Our brief literature review showed that there is a lack of empirical analysis on barriers and enablers of technology transfer. Moreover, there is no prescriptive solution that fits all countries and technologies.

On the other hand, technology transfer continues to have a prominent place in the COP agenda, with no in-depth discussions and no tangible outcomes.

As far as technology assessments go, India has the TIFAC Technology Vision 2035, which segregates technologies into four categories based on their readiness for large-scale deployment. In a similar vein, we have provided a list of identified technology needs in our Nationally Determined Contributions (NDC) document and the Biennial Update Reports (BUR).

India needs to map the available technologies, assess the strengths and weaknesses of domestic value chains, and evaluate the IPR regime through the lens of sustainable development. Such an exercise will be crucial to identify our leverage points and enable a more structured debate around technology transfer.